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APPLICATION NO. 937	FILING DATE 7/95	ENGEL FIRST NAMED INVENTOR	ATTORNEY DOCKET NO. ENZ-5(D6)(C2)
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18M2/0513

EXAMINER  
HOUTTEMAN, S

ART UNIT 1809	PAPER NUMBER
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DATE MAILED:

05/13/97

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.  
08/479,997

Applicant(s)  
Engelhardt et al.

Examiner  
Scott W. Houtteman

Group Art Unit  
1809



☒ Responsive to communication(s) filed on Dec 20, 1996

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 204-224 and 227-277 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 204-224 and 227-277 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

1. The Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to:

**Art Unit: 1809**  
Examiner: Scott Houtteman

2. Applicant's response, filed 12/20/96, has been carefully considered with the following effect:

The objection and rejections of paragraphs 16A and 16B, Office action mailed 6/21/96, have been withdrawn in view of applicant's amendments.

The objections and rejections of paragraphs 18, 19, 20, 21, 23, 25, 26 and 27, Office action mailed 6/21/96, have been maintained.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. The specification is objected to under 35 U.S.C. § 112, first paragraph, because the specification, as originally filed, does not provide support for the invention as is now claimed.

Since support for these claims was not found where pointed out nor elsewhere in the specification, these claims are considered "new matter" for reasons of record. Claims 207-224 and 227-262, 265 and 267 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the above objection to the specification.

5. The specification is objected to under 35 U.S.C. § 112, first paragraph, for failing to adequately teach how to make and/or use the invention, i.e. failing to provide an enabling disclosure. Claims 204-224 and 227-262 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.

6. Applicant argues that Example V, citing Halloran et al., describes labeling of the phosphate moiety with "Sig." This argument is not persuasive for two reasons.

First, essential subject matter cannot be incorporated by reference to a research article. Second, the claims are not limited to a carbodiimide mediated linking of proteins to nucleotides but read generically on any "Sig" linked to the phosphate moiety by any method. Thus, the scope of the described subject matter is very different from the scope of the claimed subject matter. This difference in scope is reflected in the response filed 12/20/96, page 6, first paragraph: "[I]t is evident that at least one means of coupling nucleotide and oligonucleotides to labels through the phosphate moiety was available . . .". Since support for the subject matter of the same scope was not found, nor was it pointed out, the rejection under 35 U.S.C. § 112, first paragraph, description requirement is MAINTAINED.

Applicant argues that the claims of US Pat. 5,260,433 is evidence of descriptive support and enablement for the present claims. This argument is not persuasive. Each case is argued on it's own merits. Any arguments made in other cases must be made of record in this case in order to be considered.

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 204-206, 217, 234-240, 251, 259, 261 and 264 are rejected under 35 U.S.C. § 102(b) as being anticipated by Mackey et al., Biochemistry 16(20):4478-4482, 1977 (Mackey) for reasons of record.

9. Applicant argues that a  $^{32}\text{P}$  isotope is not a chemical modification or a chemical labeling. This argument is not persuasive. Radioactive isotopes have been the most common label used through out analytical science. Radioactive labels are among the most sensitive and the most reliable. Also, claim 217 specifically recites "wherein Sig comprises a radioactive component."

Applicant also argues that "the radioactive atom [is] carried by a chelator" and thus not attached to the phosphate moiety of the oligonucleotide. This argument is not persuasive. The radioactive isotope  $^{32}\text{P}$  is attached directly to the phosphate moiety. For example, "gamma" labeled  $^{32}\text{P}$  ATP has the radioactive isotope in the third phosphate which is attached to the first and second phosphate moiety of ATP.

10. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole

would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.

11. Claims 215, 216, 221-224, 231, 233, 249, 250, 255-258 and 265-277 are rejected under 35 U.S.C. § 103 for being unpatentable over Gohlke et al., US Patent 4,378,458, 3/1983, filed 3/1981 (Gohlke) for reasons of record.
12. Applicant argues "How can the invention not be enabled by the specification in view of the prior art and at the same time be obvious in view of the prior art."
13. Standing alone, this argument against a double standard is a plausible proposition. However, when considered in light of the specific provisions of 35 U.S.C. § 103, and § 112 as it has been interpreted, it is seen to be untenable. 35 U.S.C. § 112 provides that, in return for the grant of monopoly, the specification must enable one skilled in the art to "make and use" the

invention without "undue experimentation" whereas 35 U.S.C. § 103 makes no such requirement. Thus, a teaching of how to use a compound can be entirely adequate to render a claim obvious but, at the same time, entirely inadequate to support the allowance of such a claim.

14. Applicant argues that Gohlke cannot be used generally or universally for labeling polynucleotides because DNA will not dissolve in the disclosed solvent.

This argument is not persuasive. The teaching of the prior art need only suggest an embodiment within the claimed invention. The prior art teaching need not be as broad as the claimed invention. Also, Gohlke et al. specifically discloses that the products of the labeling reactions are functional (see for example Gohlke col. 6, lines 1-7). Furthermore, the claims are not limited to a method of labeling where DNA is dissolved in a particular solvent. The claims read on products made by the methods of Gohlke where the nucleotides are first labeled and then incorporated into the DNA molecule.

15. Claims 207-214, 219, 220, 227-230, 232, 241-248, 253, 254, 260 and 262 are rejected under 35 U.S.C. § 103 for being unpatentable over Gohlke in view of Sodja et al., Nucleic Acids Res, 5(2):385-401, 1978 (Sodja) for reasons of record.

16. Claims 218 and 252 are rejected under 35 U.S.C. § 103 as being unpatentable over Mackey in view of Roychoudhury et al., Nucleic Acids Res, 3(1):101-16, Jan 1976 (Roychoudhury) for reasons of record.

17. Applicant argues the remaining rejections for the reasons given above. These arguments are not persuasive for the reasons given above.

18. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for response to this final action is set to expire THREE MONTHS from the date of this action. In the event a first response is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for response expire later than SIX MONTHS from the date of this final action.

19. This application is subject to the provisions of Public Law 103-465, effective June 8, 1995. Accordingly, since this application has been pending for at least two years as of June 8, 1995, taking into account any reference to an earlier filed application under 35 U.S.C. 120, 121 or 365(c), applicant, under 37 CFR 1.129(a), is entitled to have a first submission entered and considered on the merits if, prior to abandonment, the submission and the fee set forth in 37 CFR 1.17(r) are filed prior to the filing of an appeal brief under 37 CFR 1.192. Upon the timely filing of a first submission and the appropriate fee of \$770 for a large entity under 37 CFR 1.17(r), the finality of the previous Office action will be withdrawn. In view of 35 U.S.C. 132, no amendment considered as a result of payment of the fee set forth in 37 CFR 1.17(r) may introduce new matter into the disclosure of the application.

If applicant has filed multiple proposed amendments which, when entered, would conflict with one another, specific instructions for entry or non-entry of each such amendment should be provided upon payment of any fee under 37 CFR 1.17(r).

20. Papers relating to this application may be submitted to Group 180 by facsimile transmission. Papers should be faxed to Art Unit 1809. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Art Unit 1809 Fax number is (703) 305-7401.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Houtteman whose telephone number is (703) 308-3885. The



Serial No. 08/479,997  
Art Unit 1809

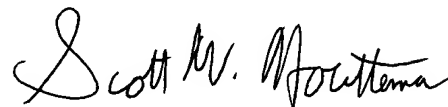
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examiner can normally be reached on Tuesday-Friday from 8:30 AM - 6:00 PM. The examiner can also be reached on alternate Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, W. Gary Jones, can be reached at (703) 308-1152.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Scott Houtteman  
May 12, 1997



SCOTT W. HOUTTEMAN  
PRIMARY EXAMINER  
GROUP 1800